

INSTALLATION INSTRUCTIONS

Operation and Maintenance

Check oil level prior to starting and ensure trouble-free medium supply.

Oil: Use only 4.6 gallons (17.5 liters) of **ISO VG 220 GL4 (e.g. Aral Degol BG220)** or **SAE 90 GL4 gear oil** (Giant part number 01154).

Initial change after 50 operating hours and then every 1000 operating hours, or after 1 year if used less.

Important! When operating in damp places or with high temperature fluctuations, oil must be changed immediately should condensate (frothy oil) occur in the gear box.

Maximum input pressure 145 PSI (10 bar).
Maximum suction head -4.35 PSI (-0.3 bar)
(dependent on the viscosity of the medium).

Make sure that suction pulsation is sufficiently dampened – water column resonance must be avoided. When starting up for work, the pump must run first at zero pressure for approximately 1 minute.

Important! The pumps can be run without gear oil cooling in continuous operation **up to** a power rating of **107.2 hp (80 kW)** or with major intermittent operation at full performance (Definition of intermittent operation: operation at full performance for not more than altogether 20 minutes an hour, with the pump running without pressure or turned off in between. For example, this can be full load operation for 5 minutes four times an hour with 10 minute breaks in between or continuous full load operation for 20 minute followed by a 40 minute break).

Separate Gear Oil Cooling for Continuous Operation

The pump gear cover (K3) has 1/2" BSP female connections on both sides on the top and bottom through which cooling water can be run. The cooling water must be fed in on one side on the bottom of the gear cover and led out on the opposite top side. The cooling water amount should be at least 0.19 gallons (7 L/min) at maximum 104 °F (40°C) before entering the pump. The maximum pressure for the cooling system is 29 PSI (2 bar). Where a closed cooling circuit is involved, the cooling efficiency and circulation amount are to be adapted accordingly. If there is a danger of frost, either antifreeze must be added or the cooling system must be emptied.

Important! The BP8000 series has a black arrow on the crankcase which shows the preferred direction of rotation.

The preferred direction of rotation ensures the motion of the connecting rods correctly distributes the oil onto the crosshead guides – which is a particular advantage where continuous operation is involved.

The pump can also be run against the recommended direction of rotation if operated periodically or at reduced pressure. If so, the pump has to be run in this direction to smoothen the bearing areas. This is done by a one-time operation at zero pressure for at least 30 minutes; thereafter the pressure must be slowly increased over the next hour to the desired maximum operating pressure after which the pump is then run in. The oil temperature is to be checked during this procedure.

Important! The pump must be emptied if there is a danger of frost. Note that travel wind, for example, can cause the medium in pumps fitted on open vehicles to freeze even if the outside temperature is above freezing point.

Expel the circuit liquid at the connecting branch (K10) using compressed air.

The torque tension on the valve casing nuts (49A) is to be checked after approximately 200 operating hours. Please see the torque specification chart on page 5.

The pump must be at zero pressure when checking the torque tension.

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Important! The service life of the seals is maximized if a minimal amount of leakage is present. A few drops of medium should drip from each plunger every minute. If leakage increases, the spiral rings can be tightened by turning the pressure sleeve (46) with tool 04968 a short way clockwise. Leakage has to be examined every day. The plunger seals must be changed should leakage become excessive (=constant dripping).

Important! Only turn the sleeve past one or maximum two hole spaces. Otherwise friction will be too strong. Coat the sealing, for example, by putting silicone grease in the lubricating nipple (39B).

Important! To avoid any incrustation of the medium on the plungers (36B), screw off cover plate (30) after every operation and rinse the plunger area with clear non-pressurized water (e.g. using mains water, never under high pressure).

Important! If recycled bentonite is being pumped, the pump must be rinsed for 3 – 5 minutes with clear water after usage to flush out dirt particles (sand) from the bentonite. The service life of the seals, ceramic plungers and valves depends largely on how fine the recycled bentonite is filtered.

Safety Rules

The operating instructions must be read and adhered to before performing any work on the pump or complete assembled unit. No responsibility will be carried by us for damage to materials or persons caused by improper handling of our pumps.

Access to the pump is not allowed for unauthorized personnel. A safety valve is to be installed in accordance with the guidelines for liquid spraying units so that the admissible operating pressure cannot be exceeded by more than 10%. Pump operation without a safety valve as well as any excess in temperature or speed limits automatically voids the warranty.

When the pump is in operation, the driven shaft side and its coupling must be covered by a protective guard. The plunger area must also be covered by the protective plate (30).

Do not step onto the protective plate (30) nor put weight on it.

Pressure in the discharge line and pump must be at zero before carrying out any maintenance work to the pump or unit. Close off suction line. Disconnect fuses to ensure that the driving motor cannot get switched on accidentally. Make sure that the pump, the cooling system and all parts on the pressure side of the unit are vented and refilled, with pressure at zero, before starting the pump.

In order to prevent air or an air/medium-mixture being absorbed and cavitation occurring, the pump-npshr (positive suction head required) and water temperature must be respected.

Cavitation and/or compression of gases lead to uncontrollable pressure-kicks which can ruin the pump and unit parts and also be dangerous to the operator or anyone standing nearby.

The BP8085 Giant pump is suitable for pumping clean water as well as water containing bentonite in a concentration of maximum 55 lbs. (25 kg) of bentonite diluted in 264 gallons (1m³) of water.